



Montana Fish, Wildlife & Parks

Crucial Areas & Connectivity Assessment



LARGE INTACT LANDSCAPES

SUMMARY: The purpose of this layer is to represent large intact landscapes in Montana, areas where large “core” habitat occurs. The metric presented is a measure of the average percent “core area” for all habitat patches occurring in a given section.

DATA SOURCE(S)/QUALITY: The primary data source for this layer is the ReGAP Ecological Systems layer (ReGAP) for Montana. The Montana Natural Heritage Program (MTNHP) is the steward of the ReGAP layer. Sixth code hydrologic unit (HUC) boundaries for Montana were used as landscape boundaries for this analysis.

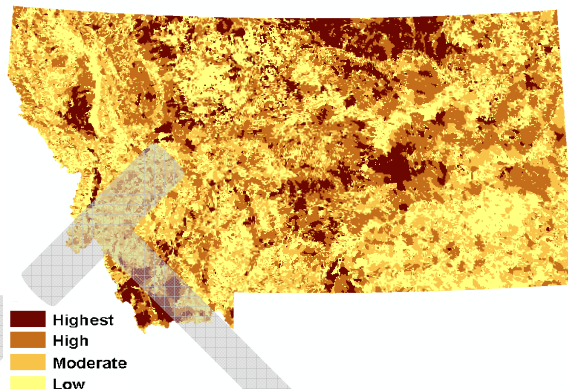
MEASUREMENT UNIT: One-mile sections

METHODS: The ReGAP Ecological Systems that have a natural spatial pattern of “large patch” as determined by MTNHP were extracted from the overall ReGAP dataset. The resulting spatial layer was analyzed using FRAGSTATS, an open-source, free program developed to calculate a variety of landscape metrics related to fragmentation. A buffer distance of 100-meters was used to define “core” in the analysis, that is, portions of a habitat patch that were at least 100-meters from an edge were determined to contribute to the core area index. Some pre-processing occurred for each landscape in order to generalize habitat patches before analysis, please see the full documentation for full FRAGSTATS parameterization and processing. **Note:** For the purposes of this analysis ecological systems were not reclassified (i.e., different grassland types were not merged), therefore, landscapes that are naturally composed of a variety of different cover types (e.g., SE Montana) are not afforded appropriate representation by this metric.

FINAL CATEGORIZATION: The core area index values (% core area) calculated for each section were divided into four classes using natural breaks (Jenks) in ArcGIS.

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CATEGORY	RANGE OF VALUES (% core)	PERCENT OF STATE
HIGHEST	56.4 – 88.1	11 %
HIGH	31.3 – 56.4	31 %
MODERATE	16.3 – 31.2	17 %
LOW	0.1 – 16.2	31 %
NOT RANKED		10 %